

REMARKS

This amendment, submitted in response to the Office Action dated October 7, 2002 is believed to be fully responsive to each point of rejection raised therein. Accordingly, favorable reconsideration on the merits is respectfully requested.

The Office Action raises a number of informalities. The Examiner objects to the title. Proposed corrections, as suggested by the Examiner, are set forth in the Appendix. The Examiner has also objected to the drawings since they do not include the reference sign "1" which is mentioned in the description. Figures 1, 3, 6 and 7 have been amended to include the reference sign "1". In addition, Applicant has amended Figures 6 and 7 so that "COMMAD MEANS" now reads "COMMAND MEANS".

In addition, the Examiner has not initialed Japanese Patent 55-12429 on the information disclosure statement. Applicant respectfully requests that Examiner acknowledge the reference on the enclosed Information Disclosure Statement.

Turning to the merits of the Office Action, claims 1-7 remain pending in the application. Claims 1-7 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Polkus et al (USP 6,439,769 hereinafter "Polkus"). Claims 1-7 have also been rejected under 35 U.S.C. § 103(a) as being unpatentable over Burdea et al (USP 5,113,424 hereinafter "Burdea"). Applicant submits the following arguments in traversal of the Section 103(a) rejections.

Section 103 rejection over Polkus

As an initial matter, Polkus has an effective filing date of March 16, 2001 which is after Applicant's priority date of November 15, 2000 based on JP 2000-348002. Therefore, to obviate

the rejection, the Applicant will submit an English translation of JP 2000-348002 as soon as one is obtained.

Section 103 rejection over Burdea

The Examiner's argument with respect to his rejection of claims 1-7 over Burdea is rather ambiguous. The Examiner initially states that Burdea *discloses* a tilt adjustment means that adjusts the tilt of the radiation in relation to the detection surface of the radiation image detection device to become substantially perpendicular by changing the tilt angle of the radiation source based on the angular signal output from the angular signal output means. Then the Examiner goes on to say that Burdea *did not* teach the tilt adjustment means that changes the tilt angle of the radiation image detection device based on the angular signal output from the angular signal output means. The internal inconsistencies in the Examiner's rejection clearly indicate that the stated rejection over Burdea is not supported.

Also, in Burdea, the magnetic source is *mounted* at a *fixed position* in a room. Column 6, lines 44-45. The sensor is adapted to detect a time-varying low frequency magnetic field generated by magnetic signal source which is *mounted* at a *fixed location* in the room. Column 9, lines 21-27. The magnetic signal sources must be in a fixed location in order to take an X-ray of the same location, for purpose of image subtraction. Column 9, lines 45-53. If the magnetic source is placed at a *fixed and known* location with respect to the robot base, then the transformation of the tooth can be determined. Column 11, lines 67-68 to column 12, line 1. Therefore, if the magnetic source were not mounted or in a fixed position, it could defeat the entire purpose of the device which is to provide accurate image subtraction between images,

since location accuracy is not assured. See Background of the Invention. A device which is mounted or in a fixed or known location so that a subject can be imaged in the same location and position, does not teach or suggest portability, as described in claims 1, 2, 3 and their dependent claims.

The Examiner further cites the same elements (62, 66, 70, 71) of Burdea for teaching both the tilt adjustment device and the shift device of claim 4. The tilt adjustment device changes the tilt angle of the radiation image detection device and the shift means provides movement of the radiation source. It is clear that the cited elements do not move both the source and the detector. To the contrary, the sensor and detecting film of Burdea are fixed to the patient's mouth and thus not subject to movement by any apparatus. Column 9, lines 67-68.

The Examiner contends that changing the tilt angle of a radiation image detection device is completely equivalent to changing the tilt angle of the source. Any expression of equivalence must be supported in the art. No such citation is provided here. Moreover, the change in position of a radiation film affixed in a person's mouth cannot be equivalently compensated by a mechanical adjustment of the source, contrary to the Examiner's contention. At the filming location, the image detection is affected by changes in the tissue. Column 2, lines 64-66. These localized changes cannot be equivalently controlled by a modification of the radiation source as the Examiner contends. Therefore, based on the aforesaid, Burdea does not teach the tilting means, in conjunction with a shift means (claim 4), contrary to the Examiner's contention.

Even when obviousness is based on a single prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference. In re Kotzab, 55

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USPQ2d 1313 (2000). Burdea does not teach or suggest a tilt adjustment means that changes the tilt angle of the radiation source based on the angular signal output from the angular signal output means (claim 6). Applicant submits that Burdea does not teach a command means that generates an exposure command to the radiation source when the tilt of the radiation to be emitted from the radiation in relation to the detection surface of the radiation image detection device is substantially perpendicular (claim 7). Thus, Examiner's argument is merely a result of hindsight.

For the reasons set forth above, it would not have been obvious to modify Burdea to arrive at claims 1-7 of the present invention.

Applicant has added claims 8-29 to describe the invention more particularly.


In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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PATENT TRADEMARK OFFICE

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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE TITLE:

The title is changed as follows:

Please amend lines 1-2 to read:

PORTABLE RADIATION IMAGING SYSTEM AND A RADIATION IMAGE
DETECTION DEVICE EQUIPPED WITH AN ANGULAR SIGNAL OUTPUT MEANS.

IN THE SPECIFICATION:

The specification is changed as follows:

Page 11, lines 23-26 to page 12, lines 1-14:

With regard to the structure of the first embodiment, the angular signal output means 30 is equipped integrally with the radiation image detection device 20. Specifically, as shown in Figs. 2A and 2B, the angular signal output means 30 is provided on a surface (either the detection surface or the reverse surface) or on a side of the radiation image detection device. As to the angular signal output means 30, an electronic level that is capable of outputting an angular signal S representing two dimensional tilt (degree of levelness) utilizing one sensor as shown in Fig. 2A maybe used, for example. Or, the angular signal output means 30 can be composed of an electronic level 30x capable of outputting an angular signal Sx representing tilt (tilt in relation to a horizontal plane) in an x direction and an electronic level 30y capable of outputting an angular signal Sy representing tilt (tilt in relation to a [horizontal] vertical plane) in [an] a y direction as

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shown in Fig. 2B. The two dimensional tilt (degree of levelness) can be recognized by the two angular signals S_x and S_y .

IN THE CLAIMS

Claims 8-29 are added as new claims.